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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/842,225 | 04/26/2001 | Michel Laberge | 201 | 7426 |

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EXAMINER

KIANNI, KAVEH C

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 12/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/842,225

Applicant(s)

LABERGE ET AL.

Examiner

Kevin C Kianni

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-83 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-83 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1, 3, 4, and 10 are drawn to absolute position of at least one element in said switch is determined and the element is capable of directing said one output channel so as to receive said one input optical channel and directing said one input optical signal so as to be received by said one output channel 385/16.
 - II. Claims 6-7, 13, 44 and 47 are drawn to determining a position, using an absolute position encoder, of at least one of: a receiving end of said one output channel and a transmitting end of an input signal channel associated with said one input optical signal 385/17.
 - III. Claims 9, 40-41, 45 and 48 are drawn to at least one absolute position encoder operative to detect a position of at least one element in said apparatus, the position of said element influencing at least one of: an alignment of said one output channel and an optical path for transmission of said one optical signal toward said one output signal channel 385/52.

- IV. Claims 11, 42 and 49 are drawn to a plurality of optical fibers operative to carry optical signals, and for each of said fibers: a moveable element, a position of which influences an optical path of optical signals that are transmitted between that fiber and another selected fiber; and an absolute encoder operative to measure the position of said moveable element 385/25.
- V. Claims 15 and 26 are drawn to a plurality of input optical apertures to any one of a plurality of output optical apertures comprising maintaining a fixed spatial relationship between an input reference pattern and each of said plurality of input optical apertures, the reference pattern being common to each of said input optical and output apertures while maintaining a fixed spatial relationship between an output reference pattern and each of said plurality of output optical apertures and directing said optical beam between said one input optical aperture and said one output optical aperture using information obtained from at least one of said input reference pattern and said output reference pattern 385/50.
- VI. Claims 37-39 and 43 are drawn to detecting a Moiré interference pattern and determining therefrom a position of at least one of: a receiving end of said one output channel/second optical fiber and a transmitting end of an

input signal channel/first optical fiber associated with said one input optical signal, classified in 385/42.

- VII. Claim 50 and 52 are drawn to a plurality of radiation sources operative to emit control signal radiation shared by each of said first group of switching units each comprising: receiving control signal radiation from each of said plurality of radiation sources; detecting a position of a beam steering element associated with that switching unit based on information obtained from said receiving step; and aligning an optical communication signal radiation beam between that switching unit and a selected one of said second group of switching units classified in 385/88.
- VIII. Claims 54 and 68 are drawn to a support chassis; a plurality of rigidly mounted radiation sources, operative to emit control signal radiation that is incident on said support chassis; first and second groups of optical fiber switching units, disposed in optically opposing relation by said support chassis, each of a plurality of the switching units in one of said first and second groups comprising a housing framework mounted on said support chassis an optical fiber having a central axis, an actuation system operative to bend the end portion of said fiber in response to actuation signals; a reticle affixed to the end portion of said fiber, said reticle having a predetermined spatial relation to an end of said fiber and being

moveable therewith; project the control signal radiation, so as to create images of at least two of said radiation sources on a surface said reticle; a photodetector operative to measure intensity of the control signal radiation transmitted through said reticle classified in 385/133-134.

IX. Claims 69-70, are drawn to a first reticle affixed to an end portion of said first fiber and moveable therewith; a second reticle affixed to an end portion of said second fiber and moveable therewith; a plurality of rigidly mounted radiation sources and associated optics, operative to emit control signal radiation, a first portion of said control signal radiation being optically projected onto a surface of said first reticle and a second portion of said control signal radiation being optically projected onto a surface of said second reticle; a first photodetector operative to detect and measure a fraction of the first portion of said control signal radiation that is transmitted through said first reticle; a second photodetector operative to detect and measure a fraction of the second portion of said control signal radiation that is transmitted through said second reticle classified in 385/27.

X. Claim 71 and 77-79 are drawn to a method of aligning an end of an optical fiber including moving fiber in response to said actuation signals and repeating steps (c) through (f) to ensure that the end of said fiber reaches

the desired position and remains substantially in the desired position
classified in 385/2.

- XI. Claims 80 and 83 are drawn to an actuation system for moving an end of a fiber including a magnetically responsive element, said magnetically responsive element affixed to the end portion of said fiber and moveable therewith; an actuation element, said actuation element disposed around a circumferential perimeter of said fiber in a location near to the substantially rigid central axis of said fiber and said actuation element further comprising a plurality of actuator branches, which actuator branches are disposed at regular intervals around the circumferential perimeter of said fiber and extend towards the end of said fiber, said actuator branches each having a coil of wire wrapped around at least a portion of their length
classified in 385/6.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions Group I-XI and Group XI are related as product and process of use.

The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case Group XI claims are products that can be used in magnetically based add/drop switching

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system which is different than more conventional system of electrically based communication systems.

3. Because these inventions are distinct for the reasons given above and the search required for Group XI claims is not required for Groups I-X claims restriction for examination purposes as indicated is proper. And because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin C Kianni whose telephone number is (703) 308-1216. The examiner can normally be reached on 9:30-18.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (703) 308-4881. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-5401 for regular communications and (703) 308-5401 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 305-4770.

Kevin C Kianni
Examiner: Kianni
Art Unit 2877



Frank Font
Supervisory Patent Examiner
Group Art Unit 2877

Kevin Cyrus Kianni
Patent Examiner
Group Art Unit 2877

November 29, 2002